

LASER CONTROL SYSTEM FOR HIGH SPEED FIBER PLACEMENT

ABSTRACT OF THE DISCLOSURE

A heating control method and an associated system are provided for high rate fiber placement in the construction of composite materials. The heating control method includes measuring a temperature of a fiber tape, determining a velocity of the

5 fiber tape, determining a feedback control value based on the temperature of the fiber tape and a target temperature of the fiber tape, determining a feedforward control value based on the target temperature of the fiber tape and the velocity of the fiber tape, determining a heat control value based on the feedback control value and the feedforward control value, and heating the fiber tape based on the heat control value.

10 By employing the predictive nature of feedforward control, improved heating of the fiber tape is provided.

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